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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|----------------------------------|-------------|----------------------|---------------------|------------------|
| 10/815,366 | 04/01/2004 | Dennis J. Chirhart | 59678US002 | 8234 |
| 32692 | 7590 | 07/18/2006 | EXAMINER | |
| 3M INNOVATIVE PROPERTIES COMPANY | | | AHMAD, NASSER | |
| PO BOX 33427 | | | ART UNIT | |
| ST. PAUL, MN 55133-3427 | | | PAPER NUMBER | |

1772

DATE MAILED: 07/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/815,366 | Applicant(s) CHIRHART ET AL. | |
| | Examiner Nasser Ahmad | Art Unit 1772 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2006 and 04 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-81 is/are pending in the application.
- 4a) Of the above claim(s) 24-80 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 and 81 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>5/14/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Rejections Withdrawn

1. Claims 1-4, 7-11, 17, 20-23 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coderre (6325515) made in the last Office Action of 2/10/2006 has been withdrawn in view of the response filed on 5/4/2006 and amendment filed on 4/12/2006.
2. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey (4983436) made in the last Office Action has been withdrawn in view of the response filed on 5/4/2006 and amendment filed on 4/12/2006.
3. Claims 12-16 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coderre made in the last Office Action has been withdrawn in view of the response filed on 5/4/2006 and amendment filed on 4/12/2006.

Response to Arguments

4. Applicant's arguments with respect to claims 1-23 and 81 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1-4, 7-11, 17, 20-23 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coderre (6325515).

Coderre relates to a retroreflective laminate (24) having a viewing surface and comprising a retroreflective layer (figure-5) and a plurality of discrete pigmented indicia (16) disposed on a viewing surface side thereof. Coderre also teaches an example wherein the Cap-Y value increase when indicia is colored white (col. 3, lines 17-19). The Cap-Y scale ranges from 0 for a perfectly black object to 100 for a perfectly white object (col. 1, lines 51-56). However, Coderre fails to expressly teach that the cap-Y value of the pigmented layer is less than the cap-Y value of the retroreflective layer. It would have been obvious to one having ordinary skill in the art to provide the discrete pigmented layer of Coderre to have a lower cap-Y value than the retroreflective layer because of the presence of the pigments (which is conventionally understood to include non-white color), such as black (which has a Cap-Y value of 0), to enhance luminance of the indicia.

As shown in figure-5, the retroreflective layer is cube cornered with a plurality of cube cornered surface structure, including at least two intersecting sets of parallel grooves. The overlay layer (34) is substantially transparent or transparent color layer and the pigmented indicia are disposed on a rear surface of the overlay layer.

Figures 1A and 1B shows that the indicia are a plurality of parallel stripes in the web direction, wherein the plurality of stripes (3a) appears to be of uniform stripe width of 0.1 to 2 mm, and covers about 10-80% of the surface.

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As for the brightness value of the pigmented layer being less than that of the retroreflective layer, it would have been obvious because a pigmented layer would provide for less brightness than a retroreflective layer which would reflect more light. For the indicia layer brightness being less than about 70% of the retroreflective layer, it would have been obvious, based on optimization through routine experimentation, to provide visibility of the indicia.

The sheeting includes an adhesive layer (28) and a release liner (30) thereon.

7. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey (4983436).

Bailey relates to a retroreflective sheeting (44) having a viewing surface comprising a retroreflective layer (figure-4) and a plurality of discrete pigmented indicia (50) disposed on a viewing surface side thereof. However, Bailey fails to teach that the cap-Y value of the pigmented layer is less than the cap-Y value of the retroreflective layer. Corderre, as discussed above, teaches that for pigmented layer such as black color, the Cap-Y value is 0. Therefore, it would have been obvious to one having ordinary skill in the art to utilize the teaching of Corderre that discrete pigmented color layer would exhibit a Cap-y value that is less than the Cap-Y value of the retroreflective layer in the invention of Bailey to provide a lower cap-Y value with the motivation to enhance the visibility of the indicia.

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8. Claims 12-16 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coderre.

Coderre, as discussed above, fails to teach that the stripe density is 2-10 per cm., that the strips vary in width, that the strips are not continuous. It would have been obvious to one having ordinary skill in the art to optimize the stripe density in the invention of Coderre by providing 2-10 stripes per cm. for providing optimum control of visibility of the indicia.

Similarly, the stripe having varying width, the stripes being offset from an adjacent set or not being continuous are also properties that determine the optimum visibility of the indicia layer.

Further, it would have been obvious to one having ordinary skill in the art to substitute black or gray color or opaque ink, for example instead of red, because it would still provide for a colored view of the indicia while controlling the visibility.

Response to Arguments

9. Applicant's arguments filed 5/4/2006 and 4/12/2006 have been fully considered but they are not persuasive.

Applicant argues that Corderre describe increasing the Cap-y value and thus teaches away from the claimed invention. This is not deemed to be convincing because of Corderre, col. 3, lines 18-19, is directed **an example**, wherein **the indicia is colored white** to increase the Cap-Y value. Applicant is informed that said increase of Cap-Y value is that of the white colored layer and not relative to the retroreflective layer as

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argues. Further, in col. 1, lines 51-56, Corderre states that the Cap-Y value is dependent on the object used, such as black object would have a Cap-Y value of 0. Hence, when the discrete indicia would have colored pigments (such as black pigmented indicia), its Cap-Y value will be lower than the retroreflective layer.

In response to applicant's argument that whiteness and retroreflectivity are not linked, applicant should note that no comparison of retroreflectivity was made with whiteness. However, the reflectivity of the pigmented layer would be affected by the type of pigment used therein. As mentioned in Corderre, the use of white pigment increase the Cap-Y value and, similarly, the use of other colored pigments would change the Cap-Y value accordingly as explained by the range in col. 1, lines 51-56.

Regarding the combination of Corderre with Bailey, the above explanation apply a *fortiori* herein.

Thus, in the absence of any evidence to the contrary, it remains the examiner's position that the claimed invention is obvious over the prior art of record discussed above.

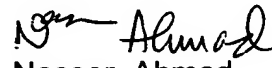
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nasser Ahmad whose telephone number is 571-272-1487. The examiner can normally be reached on 7:30 AM to 5:00 PM, and on alternate Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Nasser Ahmad 7/8/06
Primary Examiner
Art Unit 1772

N. Ahmad.
July 8, 2006.